

# (12) United States Patent

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(54)	METHOD OF RESOLVING DATA
	CONFLICTS IN A SHARED DATA
	ENVIRONMENT

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## Related U.S. Application Data

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**U.S. Cl.** ...... 707/8; 707/1; 707/10 (52)**Field of Search** ...... 707/1–10, 100–104, 707/200-206; 711/162, 144, 152; 712/16,

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#### (56)**References Cited**

## U.S. PATENT DOCUMENTS

4,953,080 4,974,173 5,008,853 5,065,347 5,107,433 5,115,504 5,220,657 5,251,294 5,276,835 5 280,609	11/1990 4/1991 11/1991 4/1992 5/1992 6/1993 10/1993 1/1994	Stefik et al. 34:   Bly et al. 34:   Pajak et al. 34:   Smith et al. 70:   Belove et al. 70:   Bly et al. 71:   Abelow 70:   Mohan et al. 71:	5/348 1/202 7/100 1/152 7/512 1/144
	1/1994 1/1994		1/144 707/1

5,428,729		6/1995	Chang et al 345/331
5,504,889		4/1996	Burgess 707/100
5,504,890		4/1996	Sanford 707/3
5,506,983		4/1996	Atkinson et al 707/1
5,530,880		6/1996	Katsurabayashi 713/201
5,544,360		8/1996	Lewak et al 707/1
5,551,046		8/1996	Mohan et al 707/8
5,559,692		9/1996	Telingator et al 705/8
5,583,993		12/1996	Foster et al 709/205
5,590,356	*	12/1996	Gilbert 712/31
5,627,967	*	5/1997	Dauerer et al 713/202
5,634,123		5/1997	Bennion 707/100
5,659,734		8/1997	Tsuruta et al 707/8
5,671,407		9/1997	Demers et al 707/8
5,692,178		11/1997	Shaughnessy 707/8
5,701,462		12/1997	Whitney et al 707/10
5,706,452		1/1998	Ivanov
5,752,068	*	5/1998	Gilbert 712/18
5,781,908	*	7/1998	Williams et al
	*		
5,809,543	~	9/1998	Byers et al 711/162

<sup>\*</sup> cited by examiner

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### ABSTRACT (57)

A method and system for automatically resolving data conflicts in a shared data environment where a plurality of users can concurrently access at least portions of a master data file is presented. Users process data files by means of local copies of a master data file. When an attempted update of a master data file with an edited data file from a user is detected, the updating file is analyzed to determine if any changes made are in conflict with changes made to the master data file by a second user. If a conflict is detected, it is resolved by merging the updating file into the master file according to a predefined set of rules. For conflicts which are not resolved by rule-based reconciliation, at least one user is notified of the conflict and presented with conflict resolving information and the conflict is resolved according to user input.

37 Claims, 11 Drawing Sheets

